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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/889,137	07/12/2001	Andrew Robert Oakley	31229-173019	8041
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VENABLE, BAETJER, HOWARD AND CIVILETTI, LLP			PESIN, BORIS M	
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WASHINGTON, DC 20043-9998			2174	6
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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	09/889,137	OAKLEY ET AL.
	Examiner Boris Pesin	Art Unit 2174

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on _____.
 2a) This action is **FINAL**. 2b) This action is non-final.
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-19 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
 5) Claim(s) _____ is/are allowed.
 6) Claim(s) 1-19 is/are rejected.
 7) Claim(s) _____ is/are objected to.
 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) Notice of References Cited (PTO-892)
 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
 Paper No(s)/Mail Date _____.
- 4) Interview Summary (PTO-413)
 Paper No(s)/Mail Date. _____.
 5) Notice of Informal Patent Application (PTO-152)
 6) Other: _____.

DETAILED ACTION

Specification

This application does not contain an abstract of the disclosure as required by 37 CFR 1.72(b). An abstract on a separate sheet is required.

The following guidelines illustrate the preferred layout for the specification of a utility application. These guidelines are suggested for the applicant's use.

Arrangement of the Specification

As provided in 37 CFR 1.77(b), the specification of a utility application should include the following sections in order. Each of the lettered items should appear in upper case, without underlining or bold type, as a section heading. If no text follows the section heading, the phrase "Not Applicable" should follow the section heading:

- (a) TITLE OF THE INVENTION.
- (b) CROSS-REFERENCE TO RELATED APPLICATIONS.
- (c) STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT.
- (d) INCORPORATION-BY-REFERENCE OF MATERIAL SUBMITTED ON A COMPACT DISC (See 37 CFR 1.52(e)(5) and MPEP 608.05. Computer program listings (37 CFR 1.96(c)), "Sequence Listings" (37 CFR 1.821(c)), and tables having more than 50 pages of text are permitted to be submitted on compact discs.) or REFERENCE TO A "MICROFICHE APPENDIX" (See MPEP § 608.05(a). "Microfiche Appendices" were accepted by the Office until March 1, 2001.)
- (e) BACKGROUND OF THE INVENTION.
 - (1) Field of the Invention.
 - (2) Description of Related Art including information disclosed under 37 CFR 1.97 and 1.98.
- (f) BRIEF SUMMARY OF THE INVENTION.
- (g) BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S).
- (h) DETAILED DESCRIPTION OF THE INVENTION.
- (i) CLAIM OR CLAIMS (commencing on a separate sheet).
- (j) ABSTRACT OF THE DISCLOSURE (commencing on a separate sheet).
- (k) SEQUENCE LISTING (See MPEP § 2424 and 37 CFR 1.821-1.825. A "Sequence Listing" is required on paper if the application discloses a nucleotide or amino acid sequence as defined in 37 CFR 1.821(a) and if the required "Sequence Listing" is not submitted as an electronic document on compact disc).

Claim Objections

Claim 1 is objected to because of the following informalities:

Line 2, "signalling" should be signaling. All subsequent occurrences of "signalling" should be amended.

Line 4, "in which the or each remote signaling device" is grammatically incorrect.

All subsequent occurrences of "the or" must be corrected.

Appropriate correction is required.

Claim 2 is objected to because of the following informalities:

Line 3, "which link is capable of conveying" is grammatically incorrect.

Appropriate correction is required.

Claim 13 is objected to because of the following informalities:

The claim must end in a period.

Line 3, "key board" is one word.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 3 and 13 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 3, the phrase "such as" renders the claim indefinite because it is unclear whether the limitations following the phrase are part of the claimed invention. See MPEP § 2173.05(d).

Regarding claim 13, the phrase "substantially the same manner" renders the claim indefinite because it is unclear whether the limitations following the phrase are part of the claimed invention. See MPEP § 2173.05(d).

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 1, 2, 4, 5, 7, 10, 15, and 17-19 are rejected under 35 U.S.C. 102(b) as being anticipated by Elrod et al. (US 5495269).

In regards to claim 1, Elrod teaches an interactive display system comprising a display device (Figure 1, Element 18), computing means (Figure 1, Element 16) and at

least one remote signaling device (Figure 1, Element 20), in which the computing means is arranged to supply image information to the display device (Figure 1, Elements 16 and 12); in which the or each remote signaling device is operable to transmit signals to a receiver portion of the display device (i.e. "The light beam from each pen is received by receiving subsystem 14 which conveys information concerning the location of each pen to computer 16" (Column 3, Line 48), the display device being arranged to supply the signals to the computing means (i.e. "The light beam from each pen is received by receiving subsystem 14 which conveys information concerning the location of each pen to computer 16" (Column 3, Line 48), said signals being stored by the computing means for display, and in which the display means is a communications hub of the display system arranged to receive control signals from a pointing device and/or a remote control device and arranged to transmit those signals to the computing means in order to control an image on the display means (Figure 1, Element 12 and 14).

In regards to claim 2, Elrod teaches an interactive display system in which the display means uses a single communications link between it and the computing means (Figure 1, Element 14), which link is capable of conveying signals both from the pointing device and the or each remote signaling device, to enable a most efficient transfer of data.

In regards to claim 4, Elrod teaches an interactive display system, in which the or each remote signaling device is a remote control device which is operable to transmit control signals to a receiver portion of the display device, which control signals are

supplied to the computing means and are operable to control the computing means and thus image information supplied to the display means. (i.e. "The present invention provides one or more input devices for simultaneously and independently entering information into a large area electronic writing system comprising a large area viewing surface upon which is displayed information generated by the electronic system. The output illumination of each input device uniquely identifies the source and the function to be performed and is projected as a light spot upon the display surface. Projected illumination from all of the input devices falls upon a receiving subsystem which generates output signals representative of the total optical input of the light spots." Column 2, Line 35).

In regards to claim 5, Elrod teaches an interactive display system, in which the display device includes position indication means for indicating the position of a pointing device relative to a surface of the display device. (i.e. "The light beam from each pen is received by receiving subsystem 14 which conveys information concerning the location of each pen to computer 16" (Column 3, Line 48).

In regards to claim 7, Elrod teaches an interactive display system as claimed in claim 1, in which the pointing device is operable to induce image control signals in the position indication means, which image control signals are operable to control the computing means and thus image information is displayed on the display means. (i.e. "The present invention provides one or more input devices for simultaneously and independently entering information into a large area electronic writing system comprising a large area viewing surface upon which is displayed information generated

by the electronic system. The output illumination of each input device uniquely identifies the source and the function to be performed and is projected as a light spot upon the display surface. Projected illumination from all of the input devices falls upon a receiving subsystem which generates output signals representative of the total optical input of the light spots." Column 2, Line 35).

In regards to claim 10, Elrod teaches an interactive display system, in which the display device includes an output portion arranged to transmit signals from both the receiver portion and the position indication means to the computing means (i.e. "The light beam from each pen is received by receiving subsystem 14 which conveys information concerning the location of each pen to computer 16" (Column 3, Line 48).

In regards to claim 15, Elrod teaches a method of operating an interactive display system comprises projecting an image of a computer display of a computer onto a display device (Figure 1, Element 12), receiving signals at a receiver portion of the display device, which signals are transmitted from at least one remote signaling device (i.e. "The light beam from each pen is received by receiving subsystem 14 which conveys information concerning the location of each pen to computer 16" (Column 3, Line 48), and transmitting those signals to the computer, to thereby manipulate the image projected onto the display device (Figure 1, Element 16), in which the display means is a communications hub of the display system arranged to receive control signals from a pointing device and/or a remote control device and arranged to transmit those signals to the computing means in order to control an image on the display means (i.e. "The light beam from each pen is received by receiving subsystem 14 which

conveys information concerning the location of each pen to computer 16" (Column 3, Line 48).

In regards to claim 17, Elrod teaches a method, in which the signals from the or each remote signaling device are transmitted in response to information displayed on the display device (i.e. "The light beam from each pen is received by receiving subsystem 14 which conveys information concerning the location of each pen to computer 16" (Column 3, Line 48).

In regards to claim 18, Elrod teaches an interactive display device comprising a receiver portion for receiving signals from a remote signaling device (Figure 1, Element 14), the display device being operable to supply the received signals to a computing means (Figure 1, Elements 14 and 16) and being suitable for displaying an image from a computing means received by said display device (Figure 1, Elements 16 and 12), in which said interactive display device forms a communication hub for an interactive display system (Element 1, Figures 18, 12 and 14).

In regards to claim 19, Elrod teaches a remote signaling device for use with the interactive display system (Figure 1, Element 20).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
 2. Ascertaining the differences between the prior art and the claims at issue.
 3. Resolving the level of ordinary skill in the pertinent art.
 4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
2. Claims 3 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Elrod et al. (US 5495269) in view of Wood et al. (US 6414673).

In regards to claim 3, Elrod teaches all the limitations of claim 2. He does not teach an interactive display system in which the single link is a wireless connection. Wood teaches, "A wireless connection is provided between the receivers 18a, 18b and the signal processor 57, wherein information data signals 160a, 160b are transmitted from the receiver locations 18a, 18b to the signal processor 57." Column 12, Line 18). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Elrod with the teachings of Wood and include a wireless connection with the motivation to provide for a clutter free wireless environment.

In regards to claim 6, Elrod teaches all the limitations of claim 1. He does not teach an interactive display system which is operable to calibrate the location of an image on the display device relative to the display device. Wood teaches, "an alternate embodiment of the transmitter pen location system 10d, in which the receiver locations 18a, 18b are movable, wherein a calibration transmitter 92 is added at one receiver

location 18b, providing automatic self-calibration for the system" (Column 12, Line 9). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Elrod with the teachings of Wood and include a calibration system with the motivation to provide for more accurate display of information.

3. Claims 8 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Elrod et al. (US 5495269) in view of Geaghan et al. (US 5790114).

In regards to claim 8, Elrod teaches all the limitations of claim 1. He does not teach an interactive display system, in which the pointing device is arranged to take precedence over the or each remote signaling device. Geaghan teaches, "Pen or Finger mode detects pen and finger contact, giving priority to pen contact when both are detected." Column 7, Line 15). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Elrod with the teachings of Geaghan and include a method of giving priority to the pointing device over another device with the motivation to provide for easy control of who gets to write on the whiteboard at a given time.

In regards to claim 12, Elrod teaches all the limitations of claim 1. He does not teach an interactive display system, in which where a plurality of remote signaling devices are provided, the display means requests information from each remote signaling device in turn, by polling. Geaghan teaches, "the driver employs polling rather than interrupts to determine^e if data is available at the serial port" Column 14, Line 4). ^{KY}

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Elrod with the teachings of Geaghan and include a method for polling devices

in order to obtain data in a desired manner with the motivation to provide for an orderly and easy method of obtaining data.

4. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Elrod et al. (US 5495269) in view of Krumholz (US 4538993).

In regards to claim 9, Elrod teaches all the limitations of claim 1. He does not teach an interactive display system in which the pointing device is operable to selectively enable the or each remote signaling device. Krumholz teaches that, "interrupt row enable the teacher to cut off reception of particular student computer outputs" Column 4, Line 11). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Elrod with the teachings of Krumholz and include a method to enable remote signaling devices with the motivation to have easy control of who gets to send out information.

5. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Elrod et al. (US 5495269) in view of Hassan et al. (US 5689562).

In regards to claim 11, Elrod teaches all the limitations of claim 1. He does not teach an interactive display system, in which the or each remote signaling device is operable to transmit signals to the receiver portion only in response to a request signal from the display means. Hassan teaches, "The image control unit 10 starts the image transmission process by sending an image data request to the image transmission unit 20." (Column 8, Line 14). It would have been obvious to one of ordinary skill in the art

at the time of the invention to modify Elrod with the teachings of Hassan and system that transmits signals to the receiver portion only in response to a request with the motivation to provide for better control of signals passed around the system.

6. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Elrod et al. (US 5495269).

In regards to claim 13, Elrod teaches all the limitations of claim 1. He does not specifically teach an interactive display system, in which the or each remote control device (18) is operable to control the computing means in substantially the same manner as a keyboard and mouse combination. Official notice is given that it is well known in the art to remote control device as a keyboard or a mouse. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Elrod and include a system to use the remote as a keyboard and/or mouse with the motivation to enable the user to effortlessly perform numerous different tasks on the device.

7. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Elrod et al. (US 5495269) in view of Lin et al. (US 5528235).

In regards to claim 14, Elrod teaches all the limitations of claim 1. He does not teach an interactive display system in which the system comprises one master control device which is a remote control device or a pointing device, and a plurality of subsidiary remote signaling devices. Lin teaches, "the present invention can be used as a control keypad for a variety of household appliances such as master remote control

device for integrated audio-video entertainment, microwave oven, security alarm panel and the like" Column 8, Line 27). It is inherent in Lin's invention that numerous other remote signaling devices are present but only one that controls all of the devices. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Elrod with the teachings of Lin and include a master remote control with the motivation to provide for more control over the devices.

8. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Elrod et al. (US 5495269) in view of Junod et al. (US 5854621).

In regards to claim 16, Elrod teaches all the limitations of claim 15. He does not teach a method wherein the signals from the or each remote signaling device are independent of the location of the remote signaling device relative to the display means. Junod teaches, a wireless radio frequency ("RF") communications interface between peripherals and the host personal computer or workstation. In one embodiment, the present invention provides a wireless electronic mouse which uses an RF transmitter to transmit information unidirectionally to a receiver which is coupled to a host computer." (Abstract, Line 1). It is well known in the art that RF devices, such as taught by Junod, transmit their signals independently of their location relative to the display. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Elrod with the teachings of Junod and include a device such as a RF wireless mouse, with the motivation to provide the user more flexibility in moving around the room and still being able to control what is on the screen.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Boris Pesin whose telephone number is (703) 305-8774. The examiner can normally be reached on Monday-Friday except every other Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kristine Kincaid can be reached on (703) 308-0640. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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